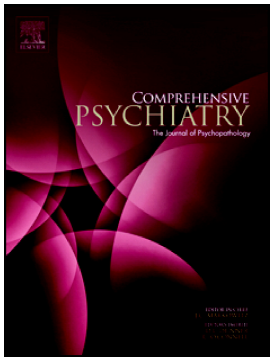
The problem of overcontrol



The problem of overcontrol: Perfectionism, emotional inhibition, and personality disorders

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PII: S0010-440X(18)30055-5
DOI: doi:10.1016/j.comppsych.2018.03.005
Reference: YCOMP 51959

To appear in:

Please cite this article as: Giancarlo Dimaggio, Angus MacBeth, Raffaele Popolo, Giampaolo Salvatore, Filippo Perrini, Aigli Raouna, Cemre Su Osam, Luisa Buonocore, Aldea Bandiera, Antonella Montano , The problem of overcontrol: Perfectionism, emotional inhibition, and personality disorders. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Ycomp(2018), doi:10.1016/j.comppsych.2018.03.005

RUNNING HEAD Perfectionism, emotional inhibition and personality disorders

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Abstract

BACKGROUND AND AIMS: Some individuals with Personality Disorders (PD), particularly of a non-Borderline type, present with difficulties relating to over-control of cognitions, emotion and behavior, perfectionistic traits, and impaired social interactions. The current study sought to evaluate the strength of association, and interactions of both emotional inhibition and perfectionism in PD's, after controlling for symptoms and interpersonal problems.

METHOD: We recruited a sample of 578 treatment seeking outpatients. Diagnosis of PD was made with the SCID-II. Individual's completed measures of perfectionism (Frost-MPS), Emotional Inhibition (EIS), Depression (BDI-II), Anxiety (STAI-Y), Global symptoms (SCL-90-R), and interpersonal problems (IIP-32).

RESULTS: Perfectionism was related to interpersonal problems, to the majority of PD symptomatology and to PD severity via number of SCID-II criteria met. Emotional inhibition was linked to symptoms and interpersonal problems as well as with avoidant, dependent, depressive and paranoid PDs; and with overall PD Severity. Inhibition and perfectionism were correlated with each other. Both variables predicted PD above and beyond other variables assessed. Mediation modelling demonstrated that the effect of emotional inhibition on PD severity was fully mediated by perfectionism and interpersonal problems.

CONCLUSIONS: Psychological mechanisms of overcontrol are a maintaining factor in many PDs. Both perfectionism and emotional inhibition impact on a broad range of PDs and there is an urgent need for research into these processes, and to adapt psychological interventions to consider these factors.

KEYWORDS: Personality disorders; Perfectionism; Emotional Inhibition; Personality Disorder Severity; Emotional Suppression; Overcontrol.

Introduction

Some patients with psychiatric disorders use overcontrolling strategies to manage their emotions and behaviors [1]. Overcontrol is associated with negative social outcomes, including reduced spontaneity [2], avoidance, social withdrawal, aversion to novel situations and lack of assertiveness [3,4]. The tendency to control one's affects, interpersonal behavior and social expression has been characterized as a hallmark of a number of personality disorders (PD), including obsessive-compulsive, avoidant, schizoid and paranoid presentations [5-9]. Individuals diagnosed with these PD's tend to control emotional expression, for reasons such as fear of being considered inappropriate or weak. They also report anxiety that if others know what they experience will judge them, for example if they display anxiety others will consider them inept, or showing signs of vulnerability will enable others to control or subjugate them [10]. Emotional overcontrol may have different functions in different PDs. For example, persons with avoidant PD may use over-control because they fear the social consequences of displaying emotion, whereas persons with obsessive-compulsive PD may think it is morally inappropriate. Alternatively, persons with paranoid PD may fear that the others can use information about their feelings in order to cheat or humiliate them. Consequently, individuals with these PDs hesitate making decisions in the social domain. They may fear negative social evaluation, that may in turn trigger feelings of shame and humiliation. Alternatively, they may predict that they will hurt others if they do not act appropriately and consequently avoid making choices or worry and postpone decisions. These negative expectations lead these individuals to limit their affective displays and social behaviors, that in turn impact upon social functioning.

Lynch and colleagues [9] list the core features of these PDs as limited awareness and expression of affect; a tendency to minimize distress; high levels of perfectionism; the need to control the environment; limited social interactions; and problems with intimacy. These individuals are also risk adverse and avoid novelty. However, despite the relevance of overcontrol in PD, research is largely lacking in this domain [9]. Studies tend to focus on dysregulation of affect and

behavior, leaving the impact of inhibitive strategies and affect suppression largely unexplored. Therefore, the current study focuses on perfectionism and emotional inhibition as two potential candidate psychological mechanisms underlying PD.

Perfectionism and personality disorders

Perfectionism reflects the tendency to set high standards and strive to reach highly valued personal goals in a variety of fields. Following Frost and colleagues [11], self-oriented perfectionism is multidimensional and comprises setting high standards for performance; fear of making mistakes; enhanced focus on parents' criticism; doubts about one's own performance, and finally a preference for organization and order. Hewitt and Flett [12] add an interpersonal dimension to this definition, including other-oriented perfectionism (the setting of unrealistically high standards on others and the belief that others hold unrealistically high expectations about the self that one should meet). There is substantial evidence that maladaptive perfectionism underlies many psychopathologies including eating disorders [13, 14], mood disturbance [15,16] and anxiety disorders [17,18]. It has been observed that perfectionism can be an aspect of PD [19].
Most literature to date focuses on obsessive-compulsive PD (OCPD), where perfectionism is one of its main features [20,21]. OCPD involves high personal standards and procrastination, as a by-product of the fear of making mistakes [12,22,23]. Perfectionism in OCPD has also been conceptualized as a core vulnerability in eating disorders [24] and has also been associated with tendencies to delay reward in OCPD [25]. It has been observed that perfectionism may be relevant in many other PDs [26,27], such as narcissism [28] and depressive PDs, (the latter characterized by a tendency to blame the self excessively for any setbacks and to harshly judge others [29]). Heightened socially prescribed perfectionism has also been associated, in nonclinical samples, with PD-related traits linked to borderline, avoidant and dependent PD's [12,30]. Of note, although the current study mostly focuses on the importance of the connection between perfectionism and emotional inhibition, perfectionism may also be a feature of dysregulated PDs, e.g. BPD. In this

case, patients may have unrelenting standards but poor capacity to regulate their actions thus increasing their sense of worthlessness.

Recently, Dimaggio and colleagues [31] have explored the associations of perfectionism with PD in clinical samples and reported that maladaptive perfectionism was correlated with number of PD criteria. Specific aspects such as concern over mistakes [11] were associated with most PD traits, with the exception of schizotypal and antisocial, whist doubts about one's own actions [11] were correlated with specific PD traits, including obsessive-compulsive, avoidant and dependent PD's. Maladaptive perfectionism was also related to symptoms and interpersonal problems (including inability to cooperate or excessive striving for approval). These findings support the proposition that aspects of perfectionism such as fear of criticism over one's mistakes and tendency to doubt whether one's action is correct are aspects of PDs not captured in current classifications [8,26]. Further exploration of the role of perfectionism in PD is merited given its potential as a focus for treatment [32,19, 9] in many PD's. This would expand knowledge of perfectionism as a transdiagnostic candidate mechanism underlying a broad array of psychiatric disorders [32].

Emotional inhibition and personality disorders

Humans constantly regulate their social display of emotions for a multitude of reasons. For example, one may amplify the display of positive and reduce display of negative emotions or, on the contrary, one may wish to display negative affect to influence another's' behavior (e.g. displaying anger to frighten someone). Consequently, affect regulation is important for well-being, as individuals strive to reduce the impact of negative emotions or increase the impact of positive feelings. One oft-used strategy is emotional inhibition or suppression [34-37]. Emotion inhibition includes strategies such as verbal inhibition of expressing feelings, self-control (e.g. being polite when others are rude), disguising ones' own feelings and shyness [34]. Expressive suppression refers to "ongoing efforts to inhibit one's emotion-expressive behavior" [38, p. 9]. Research

consistently shows that over-reliance on inhibition has detrimental effects on psychological well-being [39-40], and increases the negative impact of feelings such as disgust [41]. Inhibition also correlates with overeating [42], depression [43], post-traumatic symptoms [44] and has adverse effects on physical health, including increased risk of premature mortality [45-49]. Suppression in relationships contributes to reduced closeness, less satisfaction in relationships, including marital satisfaction, perception of social support and reduced quality of parenting [50,51,52,40, 53, 9,54, 55]. However, despite the evidence for the pervasive impact of emotional inhibition within PDs, and the evidence for inhibition being one of the core traits underlying PDs [7], this area has been largely under-investigated. Chapman and colleagues [56] found that individuals high in BPD traits reported improved functioning when invited to suppress emotions during an experiencing sampling task, whereas persons low in BPD traits felt worse when asked to suppress feelings. These data support the idea that BPD is more associated to impaired capacity to tone down affects, and not of diminished emotional display. Also these authors suggest that both suppression and expression of feelings are not healthy or pathological *per se*, but reflect a balance between expression and regulation. Contrasting findings reported that patients with borderline PD tended to suppress both positive and negative emotions [57]. Popolo and colleagues [10] reported that avoidant, and to a lesser degree dependent, PD traits were correlated with inhibition. Borderline traits were inversely connected with inhibition and, contrary to expectations, no associations were found between inhibition and OCPD traits.

Hypotheses

Based on the above evidence, in selected PDs interpersonal problems and symptoms may stem from high perfectionism, whilst for other PD's the same problems may associate with emotional inhibition. Moreover, perfectionism and emotional inhibition can be both present and their combined interaction associates with symptom severity, interpersonal problems and global severity of PD as measured with total number of SCID-II criteria.

In the current study we sought to explore these mechanisms in a treatment-seeking sample of individuals with PD diagnoses. We hypothesized that: 1) maladaptive perfectionism would be associated with most PDs; 2) emotional inhibition would be prominent in PD such as avoidant, dependent and OCPD; 3) both perfectionism and emotional inhibition would be associated with severity of global symptomatology, interpersonal problems and PD severity; and 4) perfectionism and emotional inhibition interact with each other resulting in an association between them. Also, their combined presence should help predict specific PD and PD severity. Finally, through mediation analyses, we explored the differential impact of perfectionism and emotional inhibition on PD severity.

Method

Participants and Procedures

The sample consisted of 578 treatment-seeking outpatients. All participants gave informed consent to the study. All measures were administered by trained clinical psychologists, psychiatrists or psychotherapists at patient intake as part of the standard assessment procedure at each site involved. Interviews were conducted by four clinical psychologists trained in administering the interview. The results of the interview were discussed with the referring clinician and, when treatment had started, with the psychotherapist, and a final consensus diagnosis obtained. All procedures conformed to the provisions of the Declaration of Helsinki (2000 revision).

Measures

Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II) [58]. The SCID-II is a structured clinical interview that assesses the full range of traits found in DSM IV PD. Internal consistency of traits for each diagnosis in this study ranged from .70 and 0.89 for most PDs. Four PDs had alphas below .60 (Obsessive-Compulsive, Dependent, Schizotypal, and Passive-Aggressive).

Symptom Checklist-90-R (SCL-90-R) [59]. The SCL-90-R is a self-report inventory to measure the psychological symptom patterns of psychiatric and medical patients. The SCL-90-R measures nine primary symptom dimensions and generates an estimate of global psychopathology. For this study we used the general measure of psychopathology, the Global Severity Index, indicated by the mean of all item responses on the SCL-90-R divided by the number subscales.

The Beck Depression Inventory-II (BDI-II) [60] is a commonly used 21-question measure of depressive symptom severity. Each item is scored 0 to 3, with lower scores representing lesser symptoms of depression. Total scores range from 0 to 63. Scores greater than 13 correspond to "clinically symptomatic" depression. In Italian samples the BDI-II showed good internal consistency (Cronbach's alpha 0.89) and good convergent and divergent validity [61]. Cronbach's alpha in the present study was .89.

The State-Trait Anxiety Inventory Y (STAI-Y) [62] is a 40-item questionnaire assessing state and trait anxiety. A meta-analysis demonstrated that the internal consistency of the instrument is adequate in anxious patient samples [63]. Cronbach's alpha in the present study was .71.

The Inventory of Interpersonal Problems (IIP-32) [64] is a 32 item self-report instrument measuring distress arising from interpersonal sources. Subscales are labelled domineering, vindictive, cold, socially avoidant, non-assertive, exploitable, overly nurturant and intrusive. The IIP32 possesses high internal consistency, reliability and validity, and high test–retest reliability. Cronbach's alpha estimates for the IIP Italian translation ranged from 0.79 to 0.86 [65].

The Emotional Inhibition Scale (EIS) [66] is a 19 item, self-report measure that assesses the conscious inhibition of emotions. Participants rate the frequency with which they experience symptoms on a five point Likert-type scale (0 = no, 4 = always). Higher scores indicate higher levels of timidity, introversion, and emotional restriction. The EIS has good reliability (a =.71 -.94) [67-68], and discriminates between clinical and non-clinical populations [33,69]

The Frost Multidimensional Perfectionism Scale. (FMPS) [11] is a 35-item self-report questionnaire that includes six subscales: concern over mistakes, doubts about actions, personal

standards, parental expectations, parental criticism, and organization. The concern-over-mistakes subscale refers to negative reaction to mistakes and perceptions of even minor errors as failure. Doubts about actions refers to an over repeated doubting about the quality of one's performance. Personal standards describe the tendency to set excessively high standards. Parental expectations and parental criticism refer to perceiving one's parents as having high expectations or being excessively critical [11]. Organization, usually referring to non-pathological functioning, describes the tendency to organize behavior and to be neat. The FMPS has acceptable reliability and validity [70] and Cronbach's alpha in the present study was .91.

Data Analysis

We compared study variables on key demographic characteristics, using independent samples t-tests and chi-squared analyses as appropriate. Pearson correlations were used to explore associations between study variables. A series of linear multiple regressions were used to predict the value of these significant correlations on individual personality disorders. Parallel Mediation analyses using a bootstrapping approach [71] were used to test the indirect effect of emotional inhibition on personality disorder severity, using interpersonal problems and maladaptive perfectionism as mediators of emotion dysregulation and impulsivity. Nonparametric approaches were used to enable testing of multiple mediator models without inflating family-wise error. Data were reported as point estimates with 95% Confidence Intervals (CI's), with bootstrapping on 5000 resamples. Analyses were carried out in SPSS (Version 22) using the PROCESS Macro [72]. Direct effects were tested for significance. For indirect effects bias corrected bootstrapped Cis were applied, with intervals not crossing zero indicative of significant mediation.

Results

Sample characteristics and measures

The total number of participants was N= 578. Participants had a mean age 35.8 (SD= 11.4). The gender distribution of the population was 54.3% (n=314) female, with no significant differences between genders (t (475)=.523, p>.05). Demographic and measurement characteristics of the sample are displayed in Table 1. Mean scores for each measure were indicative of moderate levels of distress in the sample based on depressive, anxiety and personality disorder symptomatology. Proportions of individuals meeting caseness for sub-threshold and full-blown PD's are displayed in Table 2.

Correlational analyses

Correlational Analyses are detailed in Table 3. There was a small but significant correlation between emotional inhibition (EIS) and all psychological symptomatology measured by the scales in the study (Frost MPS, BDI, SCL-90, STAI-Y Trait-State, IIP). Results indicated that EIS and personal distress (IIP) were most significantly correlated compared to the other measurements (r=.316, p<0.01), followed by the correlation of EIS with depressive symptoms (BDI; r=.292, p<0.01) and anxiety as a trait (STAI-Y Trait; r=.289, p<0.01). EIS and perfectionism showed a weak but significant correlation (r=.214, p<0.01). In addition, EIS was found to be significantly correlated to all Cluster C Personality Disorders except from OCPD and the overall PD severity as measured by number of SCID-II number of criteria met. The strongest correlations were noticed between EID and Avoidant PD (r=.390, p<0.01) and Depressive PD (r=.253, p<0.01). There was a small to moderate significant correlation of perfectionism with all the variables in this study. The most significant correlation regarding this study was found between perfectionism and interpersonal distress (IIP) (r=. 400, p<0.01), followed by the correlation with depressive symptoms (BDI; r=.392, p<0.01) and anxiety as a trait (STAI-Y Trait; r=.377, p<0.01). The overall PD severity was found to be significantly correlated to perfectionism (r.=373, p<0.01).

Regression analyses

We ran a series of regression analyses to predict specific PD's and PD severity, based on the results of the correlational analyses. All analyses met assumptions for homoscedasticity, tolerance and VIF's of <10. With regard to former Cluster C PDs, for avoidant PD scores the prediction model (Adjusted R^2) accounted for 32.9% of the variance (F 9, 520) = 29.782, p<0.001) with SCL-90 GSI (β= .105, p<0.01), EIS (β= .244, p<0.01) STAI-Y Trait (β=. 294, p<0.01) and IIP (β = .251, p<0.01) emerging as significant predictors. For dependent PD, predictors accounted for 20.3% of the variance (F: 9, 520 = 15.945, p<0.001), with the strongest predictor being gender (β = .083, p<0.05). The total scores of STAI-Y Trait, IIP and BDI were also found to be predictive (β = .194, p<0.01, β= .218, p<0.01, β= .117, p<0.05 respectively). For passive aggressive PD, predictors accounted for 18.4% of the variance (F: 7, 527 = 18.205, p<0.001). The strongest predictor of Passive Aggressive PD was EIS (β =- .148, p<0.001). The total scores of IIP, STAI-Y trait and SCL-90 were also found to be predictive (β = .174, p=0.001, β= .120, p=0.041, β= .148, p=0.34 respectively). For depressive PD, 37.7% of variance was accounted for by predictors (F =(9, 521) = 36.564, p<0.001) with the following significant predictors: STAI-Y Trait (β= .413, p<0.01), BDI (β = .144, p<0.01) and IIP (β = .129, p<0.01). A negative prediction by STAI-Y State (β = -.099, p<0.05) was also observed. Adjusted R^2 accounted for 10.1% of the variance in OCPD score. The only significant predictor was MPS score (β = .265, p<0.001).

The prediction model for paranoid PD accounted for 11.2% of the variance (F =(7, 527) = 10.627, p<0.001); with Frost MPS total (β =.104, p<0.026) and STAI-Y trait (β =.193, p<0.002) emerging as significant predictors. For Cluster B PDs, the prediction model for narcissistic PD accounted for 9% of the adjusted variance (F =(7, 530) = 8.837, p<0.001); with EIS total (β=-.12, p<0.01), Frost MPS total (β =.143, p<0.002) and IIP-Total (β=.280, p<0.001) emerging as significant predictors. The prediction model for borderline PD accounted for 26% of the adjusted variance (F =(7, 529) = 27.899, p<0.001); with EIS total (β = -.172, p<0.001), BDI Total (β=.230, p<0.001) STAI-T total (β=.166, p=0.003), SCL-90 GSI (β=.132, p<0.048) and IIP-Total (β=.103,

p<0.036) emerging as significant predictors. Finally, the predictors for SCID-II total score, accounted for 39.8% of the variability (F (9, 528) =40.464, p<0.001). Significant predictors of SCID-II total score were STAI-Y Trait (β=.237, p<0.001), followed by BDI (β =.186, p<0.001), IIP (β=.304, p<0.001), Frost MPS (β=.103, p<0.01) and Age (β= -.088, p<0.05).

Mediation Analysis

Mediation analyses are detailed in Table 4 and Figure 1. The total effect of EIS on SCID-II severity was significant, but was completely mediated by IIP and Frost MPS scores. The effect of EIS on both mediators was significant. The overall model accounted for 30% of the variance in SCID-II total score (R^2 = 0.301, F (3,555) = 79.73, p<.0001).

Discussion

Given the paucity of research into aspects of overcontrol in PD in general, and perfectionism and emotional inhibition in particular, we investigated the role of these variables in a large sample of treatment-seeking outpatients. Consistent with our first hypothesis and supporting previous findings [31], maladaptive perfectionism was associated with most PDs and with overall PD severity. Secondly, consistent with our hypothesis, emotional inhibition was most strongly associated with avoidant PD, but also with dependent, depressive, passive aggressive, borderline and paranoid PDs; and with overall PD severity. Unexpectedly, inhibition was not associated with OCPD, that is largely inconsistent with contemporary descriptions of this disorder [8]. It is therefore possible that individuals with OCPD express their feelings more than previously indicated. Alternatively, it could be that, because of their relentless moral standards, these individuals do not cognitively endorse the level of suppression they undertake- i.e. they use inhibition of affect as an adaptive coping strategy, but do not explicitly report use of the strategy. Therefore, on self-reported measures report that they have failed to inhibit their affects, when the opposite may be the case. Further research is needed, possibly adopting lab-based or implicit measures of emotional inhibition, to compare self-evaluation of suppression with actual levels of arousal.

In support of our third hypothesis, perfectionism and inhibition were associated with interpersonal problems and symptoms of anxiety, depression and overall distress. This extends earlier findings suggesting that perfectionism and emotional inhibition/suppression are both highly correlated with a plethora of symptoms and social difficulties [13,17,32,34,40]. Therefore, we suggest clinicians should be willing to consider addressing inhibition and perfectionism when treating PDs where these were identified as predictors. For instance, it is possible that increasing emotional expression improves social function, whilst reducing perfectionism confers improvements in psychological and behavioral aspects of PD. Consistent with this finding, we note that reductions in self-critical perfectionism predicted symptom decrease after psychotherapy [19].

In addition, as predicted, we found a correlation between emotional inhibition and perfectionism. Though we cannot infer causality, one possibility is that individuals who inhibit their emotions have difficulties in setting personal goals, thus are to a certain extent unaware of their emotional state, or do not trust these states. Consequently, they over-rely on perfectionistic moral and performance standards as guides for their social behavior. Alternatively, individuals with perfectionistic dispositions may inhibit the social display of emotions because they fear that showing them publicly would be inappropriate and attract criticism. Further research is needed to disentangle the question of the direction of causality, although it is also possible that both paths we suggest create a vicious cycle whereby emotional inhibition and perfectionism reinforce each other.

In terms of possible interactions between inhibition and perfectionism in the prediction of PD, we noted that for some PDs only one of these variables was a predictor. Avoidant and passive-aggressive PD were predicted by inhibition only, whereas borderline PD was negatively predicted by emotional inhibition. The latter finding is consistent with evidence that BPD-diagnosed individuals are mostly dysregulated and not over-regulated [73,74]. In contrast, OCPD and paranoid PD were predicted by perfectionism only. Narcissistic PD was predicted by both variables, though, inhibition was a negative predictor. Therefore, the absence of tendencies to inhibit social display of feelings and perfectionism, in combination with maladaptive interpersonal patterns, can be a path to

narcissistic behaviors. Finally, overall PD severity was predicted by both emotional inhibition and perfectionism. In general, inhibition and perfectionism on selected PDs tend to have separate impacts, with perfectionism weighing more on some PD and inhibition on others. This suggests a need for more nuanced assessment and treatment plans, needs-adapted to the specific PD presentation.

Our final hypothesis tested the possible independent influence of emotional inhibition and perfectionism on PD severity. As noted earlier, both variables were correlated with PD severity. However, mediation analysis demonstrated that the effect of inhibition on PD severity was completely mediated by perfectionism and interpersonal problems. Although tentative, one possible explanation for this finding is that some patients tend to inhibit their emotions, paving the way to social dysfunction and distress, articulated clinically as a PD diagnosis. Equally, it may be the case that once individuals inhibit the expression of their feelings, they either resort to perfectionistic standards to understand the 'best' course of social action, or resort to a number of maladaptive interpersonal strategies to navigate through social life. Therefore, this over-reliance on perfectionism and maladaptive interpersonal strategies, form the proximal antecedents of PD.

Overall, our findings strongly support the role of perfectionism in PD, both at the level of specific categories and of PD severity. This replicates earlier evidence in clinical samples [31], with greater confidence in our findings conferred by the large sample size. We contend that this evidence highlights perfectionism as a core aspect of PD and should be evaluated when assessing PD severity. Furthermore, although under-researched in PD emotional inhibition may well be of relevance to understanding underlying psychological mechanisms in this population. It appears particularly relevant in avoidant PD, and to a lesser extent, in dependent, depressive and paranoid PDs. It's presence in these disorders may be explained by different attributions: avoidant, dependent and depressive PD are likely to endorse a negative view of the self and their emotional states, thus adopt emotionally inhibitive strategies in social interactions. In contrast, those with Paranoid PD

may be emotionally withdrawn as a defense, due to the belief that others will use knowledge about the individual to deceive, hurt or manipulate them [75].

Importantly, emotional inhibition was correlated with PD severity and replication of this finding may build evidence for emotional inhibition as a core feature of PD, in parallel to its opposite mechanism - emotional dysregulation. The path model also highlights the psychological mechanisms through that emotional inhibition, perfectionism and maladaptive views of self and others combine in predicting PD. Further research is therefore needed to elucidate whether emotional inhibition is an automatic coping mechanism that then leads to confusion about what to do in social life, ultimately leading to resorting to perfectionism as an organizational strategy. Put simply, an individual may reason the following: "Displaying feelings is not ok, and I cannot trust my emotions as they lead me adrift. I have to resort to other signals to understand how I'm doing socially, so attaining and maintaining certain social and moral standards is what I need to do be accepted and avoid criticism". Alternatively, the combination of perfectionism and disturbed views of self and others may lead individuals to cope with the predicted negative consequences of social display with tendencies to suppress emotions, precipitating problematic social interactions and subjective distress.

We note that our study provides clear confirmation that PD severity is related to impaired internal functioning and greater distress. PD severity was correlated with all the psychological variables analyzed here. In recent years, many clinicians and academics have advocated for prioritizing PD severity over and above the presence of specific PD [76-83], thus shifting towards a predominantly dimensional classification for PD [5,77,79,80]. The relevance of assessing PD severity is strongly supported by our findings, and we add emotional inhibition and perfectionism to a number of aspects to be considered when evaluating PD, in tandem with consideration of symptoms, interpersonal problems, social functioning, quality of life [765,84,85], impaired capacity to understand mental states [86] and emotion dysregulation [87].

We note several limitations to our study. Psychological difficulties were measured using self-report measures, with consequent risk of false positives, false negatives and inflated correlations. The sample was recruited from treatment-seeking individuals presenting to an outpatient private center, preventing generalization of the findings to other groups with lower socio-economic status, or to more severe PD presentation that require hospitalization. Additionally, we did not explore the role of medication and comorbid psychiatric conditions as possible confounds. Furthermore, we did not explore other variables that could have interacted with the psychological variables measured in the current study, such as capacity to understand mental states (e.g. mentalizing) [88] or metacognition [89], attachment patterns or trauma history. It is possible that when considering their presence, the strength of emotional inhibition and perfectionism in predicting PDs may be modulated. Future research is needed to explore these issues in greater detail. Finally, we analyzed SCID subscales, some of which have suboptimal reliability, introducing a level of bias into our interpretation of the results.

Our results also have several important clinical implications. First, perfectionism appears present in almost all PD, thus should be considered a treatment target, irrespective of the therapy modality adopted. This would be in keeping with transdiagnostic psychological therapies that target maladaptive perfectionism as an underlying core element of psychopathology [32,91,92]. Second, emotional inhibition requires greater clinical consideration, as to the best of our knowledge, few therapeutic approaches have considered it as a central treatment target [31,8,9]. However, our findings suggest that, as least in some selected PDs, particularly avoidant PDs, it appears to have a central role. Third, clinicians need to be attentive to interactions between inhibition of feelings, perfectionism and maladaptive views of self and others, with the target of disentangling these interactions and remodeling the vicious cycles that maintain PD severity [90]. Finally, we suggest that future editions of diagnostic manuals should consider both perfectionism and emotional inhibition amongst the general features of PD, enabling a more fine-grained understanding of PD and providing clinician-friendly information. To date, DSM 5 considers perfectionism a feature of

OCPD only, whereas our study provides clear evidence that this trait is common to most PDs. We also propose that consideration of emotional inhibition would improve the definition of PD's in general and stimulate interest in this psychological mechanism as a treatment target.

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Table 1- Characteristics of the Sample

		Male (n=264)	**Female (n=314)**	**Total (n= 579)**
Age, mean, ±SD (range)		35.8± 11.2 (16-69)	35.8±11.7 (13-68)	35.8±11.4 (13-69)
Marital Status (%)				
	Married	74 (28%)	81 (25.8%)	155 (27.3%)
	Non-Married	187 (70.8%)	225 (71.7%)	412 (72.7%)
Education Level (%)				
	Elementary School	-	1 (.3%)	1 (.2%)
	Junior High School	31 (11.8%)	23 (7.3%)	54 (9.4%)
	High School	128 (48.7%)	125(39.8%)	253 (43.8%)
	Graduate	94 (35.7 %)	150 (47.8 %)	244 (42.3%)
	Postgraduate	10 (3.8%)	15 (4.8%)	25 (4.3%)
Professions (%)				
	Professional	108(51.1%)	106 (34%)	214 (37.4%)
	Administrative and Other Skilled Occupations	67(25.8%)	95 (30.5 %)	121 (28.4%)
	Manual Occupations	8 (3.1%)	-	8 (1.4%)
	Student/ Part-time	51 (19.6%)	64 (20.6 %)	115 (20.1%)
	Unemployed/ Retired	26 (9.8%)	46 (4.8%)	72 (12.6%)
Measures (Mean, SD)				
	EIS	32.6 (8.04)	32.9 (8.45)	32.8 (8.27)
	Frost MPS	90.8 (22.74)	99.9 (23.09)	95 (24.32)
	BDI-II	15.5 (10.18)	21. (11.98)	18.5 (11.58)
	SCL-90 GSI	0.83 (0.58)	1.02. (0.63)	0.93 (0.62)
	STAI-Y State	45.3 (12.61)	49.3 (12.79)	47.5 (12.86)
	STAI-Y Trait	48.8 (12.59)	52.5 (11.46)	51 (12.96)
	IIP-32	37.5 (17.89)	38.5 (17.83)	38 (17.89)
	SCID-II (all items)	14.6 (9.77)	16.3 (10.18)	15.2 (10.11)

Note: BDI-II = Beck Depression Inventory-II; EIS = Emotional Inhibition Scale; Frost MPS = Frost Multidimensional Perfectionism Scale; IIP-32 = Inventory of Interpersonal Problems-32 item version; SCID-II = Structured Clinical Interview for DSM-IV Personality Disorders; SCL-90-R = Symptom Checklist-90-Revised; SD = Standad Deviation; STAI-Y State = State-Trait Anxiety Inventory Y State; STAI-Y Trait = State-Trait Anxiety Inventory Y Trait.

Table 2: Participants meeting caseness for sub-threshold and threshold Personality Disorders

Disorder	**Mean score (SD)**	**Number of participants (%) meeting caseness for sub-threshold Personality Disorder**	**Number of participants (%) meeting caseness for full Personality Disorder**
Paranoid	*1.00 (1.37)*	*87 (15.0)*	*51 (8.8)*
Borderline	*2.05 (2.26)*	*142 (24.5)*	*101 (17.4)*
Narcissistic	*1.45 (1.75)*	*88 (15.2)*	*46 (7.9)*
Avoidant	*1.78 (1.88)*	*125 (21.6)*	*68 (11.7*
Obsessive compulsive	*1.85 (1.56)*	*186 (32.1)*	*99 (17.1)*
Dependent	*1.43 (1.58)*	*148 (25.6)*	*75 (13.0)*
Depressive	*2.19 (1.91)*	*154 (26.6)*	*93 (16.1)*
Passive–aggressive	*1.69 (1.43)*	*161 (27.8)*	*76 (13.1)*

Note: Due to small numbers of participants (lower than 6% of sample) meeting caseness for sub-threshold and full blown Personality Disorders we do not report rates for Schizotypal, Schizoid, Histrionic and Antisocial Personality Disorder. These data are available on request from the authors.

Table 3- Bivariate correlations between psychological, symptomology and personality disorder variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. EIS	**1**	.214**	.292**	.253**	.152**	.289**	.316**	.390**	.170**	.059	.023	.253**	.136**	-.002	.021	.196**
2. Frost MPS	214**	**1**	.392**	.382**	.201**	.377**	.400**	.207**	.228**	.304**	.249**	.306**	.239**	.223**	.278**	.373**
3. BDI-II	.292**	.392**	**1**	.774**	.557**	.652**	.446**	.314**	.325**	187**	.318**	.465**	.262**	.114**	.428**	.459**
4. SCL-90 -R	.253**	.382**	.774**	**1**	.540**	.666**	.543**	.332**	.314**	.209**	.356**	.480**	.346**	.135**	.435**	.498**
5. STAI-Y State	.152**	.201**	.557**	.540**	**1**	.526**	.273**	.157**	.163**	.154**	.225**	.266**	.139**	.034	.270**	.261**
6. STAI-Y Trait	.289**	.377**	.652**	.666**	.526**	**1**	.552**	.430**	.374**	.186**	.334**	.551**	.304**	.110**	.415**	.509**
7. IIP-32	.316**	.400**	.446**	.543**	.273**	.552**	**1**	.437**	.356**	.198**	.332**	.428**	.249**	.277**	.338**	.512**
8. SCID-II Avoidant	.390**	.207**	.314**	.332**	.157**	.430**	.437**	**1**	.411**	.205**	.348**	.524**	.238**	.106*	.288**	.597**
9- SCID-II Dependent	.170**	.228**	.325**	.314**	.163**	.374**	.356**	.411**	**1**	.269**	.346**	.452**	.216**	.184**	.421**	.615**
10: SCID-II Obsessive-Compulsive	.059	.304**	.187**	.209**	.154**	.186**	.198**	.205**	.269**	**1**	.329**	.250**	.286**	.292**	.244**	.521**
11. SCID-II Passive-Aggressive	.023	.249**	.318**	.356**	.225**	.334**	.332**	.348**	.346**	.329**	**1**	.433**	.431**	.383**	.518**	.710**
12 SCID-II Depressive	.253**	.306**	.465**	.480**	.266**	.551**	.428**	.524**	.452**	.250**	.433**	**1**	.351**	.158**	.467**	.692**
13. SCID-II Paranoid	.136**	.239**	.262**	.346**	.139**	.304**	.249**	.238**	.216**	.286**	.431**	351**	**1**	.316**	.415**	.600**
14. SCID-II Narcissistic	-.002	.223**	.114**	.135**	.034	.110**	.277**	.106*	.184**	.292**	.383**	.158**	.316**	**1**	.392**	.575**
15. SCID-II	.021	.278**	.428**	.435**	.270**	.415**	.388**	.288**	.421**	.244**	.518**	.467**	.415**	.392**	**1**	.758**

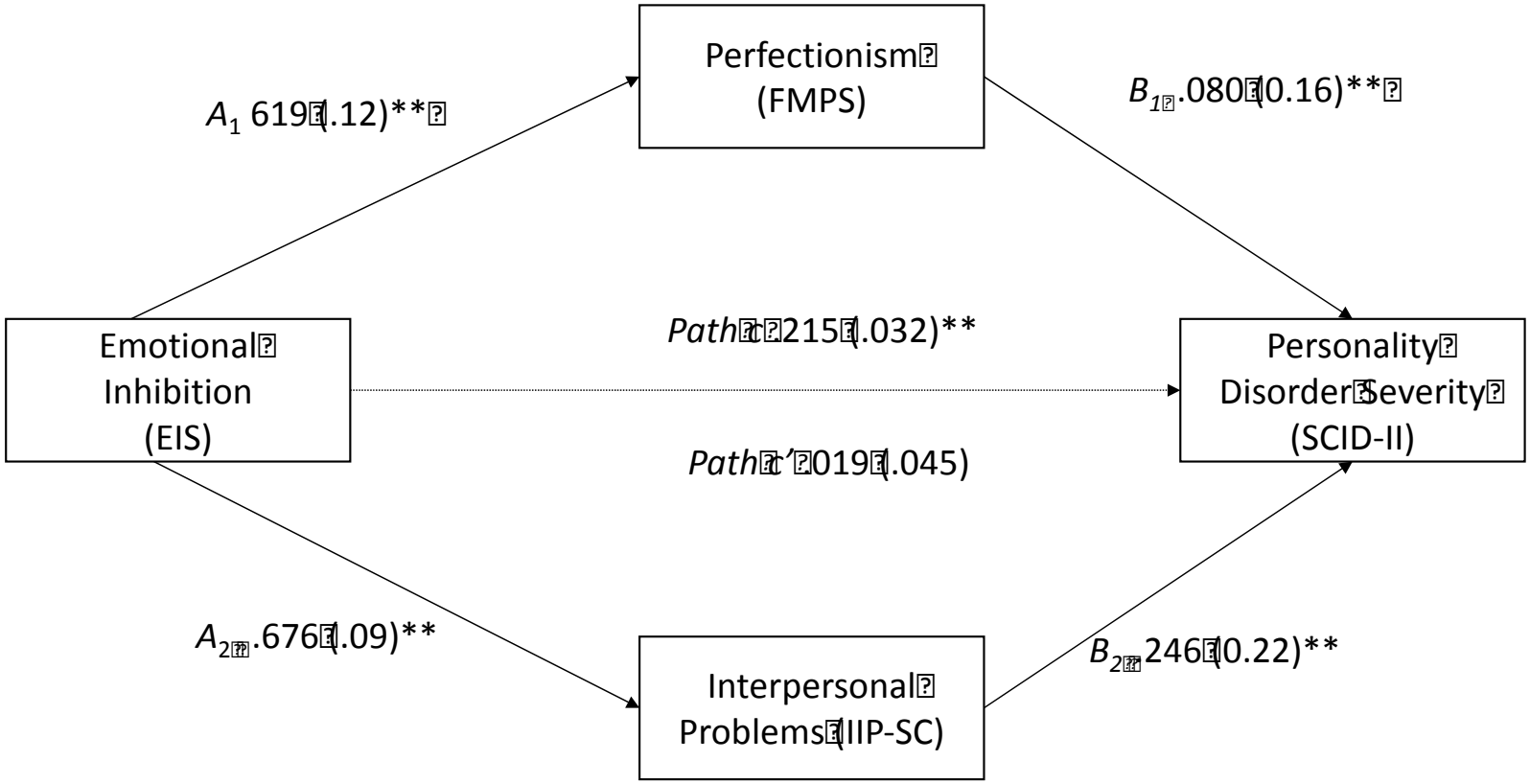
Borderline																
16. SCID-II Overall	.196**	.373**	.459**	.498**	.261**	.509**	.512**	.597**	.615**	.521**	.710**	.692**	.600**	.575**	.758**	**1**

Note: BDI-II = Beck Depression Inventory-II; EIS = Emotional Inhibition Scale; Frost MPS = Frost Multidimensional Perfectionism Scale; IIP-32 = Inventory of Interpersonal Problems-32 item version; SCID-II = Structured Clinical Interview for DSM-IV Personality Disorders; SCID-II Avoidant, Dependent etcetera = SCID-II Personality Disorder categories; SCID-II Overall = SCID-II Overall Personality Disorder Score. SCL-90-R = Symptom Checklist-90-Revised; SD = Standad Deviation; STAI-Y State = State-Trait Anxiety Inventory Y State; STAI-Y Trait = State-Trait Anxiety Inventory Y Trait

Table 4: Summary of multiple mediation analysis for emotional inhibition, perfectionism, interpersonal problems and personality disorder severity (*N*=579; 5,000 bootstraps).

Independent Variable (IV)	Mediators (M)	Dependent Variable (DV)	Coefficient (SE) of IV on M (a)	Coefficient (SE)of M on DV effect (b)	Total Effect (SE) (c)	Bias corrected intervals(c) 95% CI	Direct Effect (SE) (c')	Bias corrected intervals (c'): 95% CI	Indirect effect	Bias corrected intervals) (a)(b): 95% CI
Emotional Inhibition	Perfectionism	Personality Disorder Severity	.619 (.12)	.080(.016)	.215 (.032)	.166 to .271	.019 (.045)	-.055 to .094	.049 (.016_	.027 to .079
	Interpersonal Problems		.676 (.09)	.246(.022)					.166 (.027)	.125 to .215

Figure 1: Illustration of the proposed mediation model. Path a represents the direct effect of emotional inhibtion on the mediators, and Path b the effect of the mediators on personality disorder severity, with the predictor held constant. Path c is the direct effect without mediators. Path c' is the direct effect of emotional inhibition on personality disorder controlling for the variance accounted for by the mediators. ** = Signifance at p>.001



Highlights

- Perfectionism is a core feature of personality disorders
- Emotional inhibition is present in many personality disorders
- Perfectionism and emotional inhibition are related to severity of personality disorders
- Perfectionism and emotional inhibition should be considered a treatment target when addressing patients with personality disorders

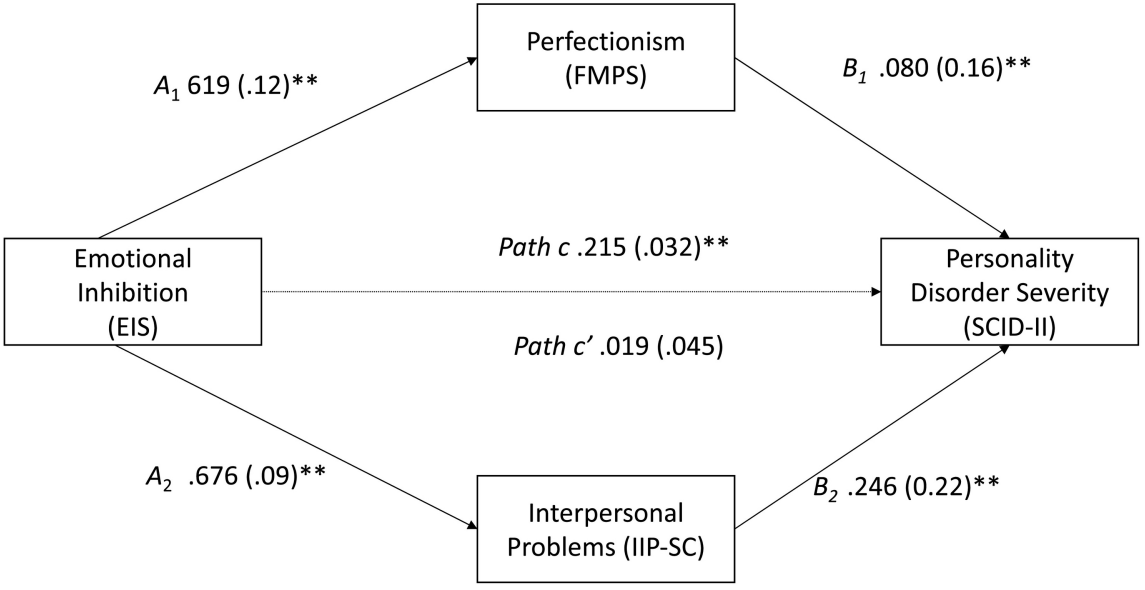

Perfectionism
(FMPS)
A_1 619 (.12)**
B_1 .080 (0.16)**
Emotional
Inhibition
(EIS)
Path c .215 (.032)**
Personality
Disorder Severity
(SCID-II)
Path c' .019 (.045)
A_2 .676 (.09)**
Interpersonal
Problems (IIP-SC)
B_2 .246 (0.22)**

Figure 1